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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/553,274

10/13/2006

Yuichi Tsuji

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EXAMINER

ZIMMER, MARC S

ART UNIT

PAPER NUMBER

1796

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/553,274	<b>Applicant(s)</b> TSUJI ET AL.	
	<b>Examiner</b> MARC S. ZIMMER	<b>Art Unit</b> 1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 08 April 2010.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-6 and 9-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6 and 9-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)                        | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-6 and 9-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Field et al., U.S. Patent # 4,515,884 in view of Priebe et al., U.S. Patent # 5,869,188 and also, Shudo et al., U.S. Patent Application Publication No. 2002/0146575. Field discloses a fuser member comprising a layer of vulcanized silicone rubber containing thermoconductive particles. Column 9, lines 1-15 disclose a composition that mirrors that of the instant invention in most respects but is distinguished by the fact that a condensation curable silicone rubber is used as the host matrix as opposed to a hydrosilylation-curable silicone. Nevertheless, it is contemplated at the bottom of column 8 that other silicone rubbers known to have application in the manufacture of fuser members may be used. In this connection, Priebe is cited to illustrate that, not only are hydrosilylation-curable systems known to be used in this capacity, but also they are generally regarded as being equivalent hosts into which conductive particles are incorporated to make fuser members. See column 5, lines 23-42.

Shudo, as before, confirms that it is known to add cerium oxide in amounts consistent with those claimed to impart thermal stability to the composition insofar as the fuser member will be subjected to/operate in a high temperature condition.

The particle sizes of alumina and iron oxide are taught in column 10, lines 4-6 and lines 25-30 respectively.

As for claims 3, 4, and 10, the treatment of fillers with an organosilicon compound as a means making their surfaces more compatible with the host matrix into which they are blended is practiced ubiquitously. It is a particularly important operation where metal oxides are incorporated into a silicone host so as to avoid the phenomenon known as structuring or crepe hardening.

Concerning claims 5-6, and 11-20, Applicant is advised that these claims, in the Examiner's estimation, connote product-by-process in the sense that they imply formulating the metal compounds (C) and (D) into a certain state, a paste, prior to their incorporation into the overall composition. The Examiner submits that a reference need not mention this aspect for these claims to be anticipated because, whether or not the iron oxide and cerium compound are first made into a paste with portions of (A), upon blending them with the remaining portion of (A) and components (B), (E), and (F), there will be no patentable distinction between the prior art invention and the claims provided that the makeup is the same. Moreover, the carrying out of processes in a different sequences, such as blending of ingredients in a different order, has been deemed *prima facie* obvious. *In re Burhans*, 154 F.2d 690, 69 USPQ 330 (CCPA 1946) (selection of any order of performing process steps is *prima facie* obvious in the absence of new or unexpected results); see also *In re Gibson*, 39 F.2d 975, 5 USPQ 230 (CCPA 1930) (Selection of any order of mixing ingredients is *prima facie* obvious.) Finally, the creation of concentrates of the base polymer and filler, as opposed to mixing the fillers

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directly into the bulk matrix is known and practiced with some frequency. (Usually this process would be referred to as creating a masterbatch.)

As for claim 9, Field discloses the employment of a silicone oil as the release agent but the skilled artisan recognizes that liquid agents have to be frequently replenished and tend to pollute other parts of the electrostatographic apparatus over time so solid fluororesins have been widely implemented as replacements for a silicone oil.

### ***Response to Arguments***

Although the Examiner has changed the foundation of his rejection such that a different reference is cited to support the notion that the skilled artisan would regard condensation-curable polysiloxanes and addition-curable polysiloxanes as functional equivalents in the context of fulfilling the role of elastomer material representing the outer surface of a fuser roller, the Examiner expects that Applicant will continue to traverse the rejection on much the same grounds. Indeed, Applicant anticipated the possibility that *Schlueter* might be removed as a foundation for rejection and the rejection would be re-stated over *Field* in view of *Badesha* alone in which case it has been asserted that the teachings of *Schlueter* still cannot be ignored.

To rebut the Examiner's contention that *Field* is clearly unconcerned with the drawbacks associated with the employment of high surface energy fillers such as alumina and iron oxide and to support the general theme of their arguments, Applicant has made the following observations:

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“...it is not surprising that Field et al. is unconcerned with the teaching away present in Schlueter, because Schlueter was not available for the inventors of Field et al. at the time of the invention of Field et al. Over time, innovation improves products and ameliorates deleterious effects of prior art; as such, it is improper to rely on prior art which antedates an improvement patent to show that others are not concerned with the teaching away of the improvement patent (because, at the time of invention of the prior art, such knowledge may not have been readily available or widely known). As an exemplary example of an extension of the Examiner's logic, imagine a patent issued for a braking system in 1960. Then, a patent issued in 1985 describing the inherent problems with prior art braking systems and teaching away from such systems. An Examiner cannot rely on the 1960 patent to show that others are not concerned with the teaching away present in the 1985 patent. The same is true in the instant case, i.e., it is improper for the Examiner to rely on prior art which antedates the teaching away of Schlueter to show that others are unconcerned with the express teaching away of Schlueter.

The implication in Applicants' statements is that, at least compared to *Field*, *Schlueter* represents the state of the art given its later publication date and, thus, any skilled artisan working to further advance fuser roller technology after the publication date of *Schlueter* would have been discouraged from using either iron oxide or alumina, or both, in the formulation of the outer elastomeric layer of a fuser roller. However, the skilled artisan has hardly been deterred from incorporating these compounds into the elastomer layers of even fuser roller technology developed quite recently. In fact, U.S. Patent Application Publication No. 2004/0253436 ('436), which Applicant is reminded had earlier represented a grounds for rejection of the claims before being obviated by the submission of a written translation of Applicants' foreign priority document, was

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assigned to the same assignee as was Schlueter, and **mandated** the presence of both iron oxide and alumina. Obviously, despite the shortcomings associated with the incorporation of these materials, the benefits realized by their addition are apparently also recognized by the skilled artisan and are deemed to outweigh the drawbacks. Unlike with *Field*, Applicant cannot argue that the authors of the '436 application were unable to benefit from the knowledge made available by *Schlueter* and, moreover, to the extent that they worked for the same company, there is a much higher probability that they would have been familiar with the teachings of the Schlueter document.

As to the notion that condensation-curable silicones and addition-curable silicones are not equivalent hosts insofar as they are produced by different methods and may have differing properties, the issue is not whether there would be any differences whatsoever but, rather, whether those differences would lead the skilled artisan to believe that one is clearly superior over the other in the capacity of serving as a coating layer for a fuser roller. Nothing in the prior art encountered by the Examiner suggests a clear advantage between the two types distinguished by their curing mechanism.

As for Applicants' allegations of unexpected results, the data presented in Tables 5 and 6 of their response is not a mere replication of data already related in the original Specification and, hence, should have been furnished as part of a Rule 1.132 declaration. As an aside, the Examiner is curious as to why Applicant elected to furnish

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the results in the qualitative manner outlined in the Specification as opposed to in the numerical form now introduced.

It should be reiterated that isolating the precise characteristic to which the performance differences may be attributed is non-trivial because, with the exception of Example 1 and comparative Example 3, every other pair of examples has more than 1 variable distinguishing them. For instance, Example 1 and Comparative Example 1 differ not only in the absence of cerium oxide in the latter but also in the amount of alumina and iron oxide incorporated into each. Similar observations could be made of the other pairs as well. Further, while it is inarguable that there is clearly a performance difference between the composition of Example 1 and that of Example 3, Applicants' showing is not commensurate in scope with their claim. MPEP 2145 holds that a showing of unexpected results for a single member of a claimed subgenus, or a narrow portion of a claimed range would be sufficient to rebut a prima facie case of obviousness if a skilled artisan "could ascertain a trend in the exemplified data that would allow him to reasonably extend the probative value thereof." *In re Clemens*, 622 F.2d 1029, 1036, 206 USPQ 289, 296 (CCPA 1980) (Evidence of the unobviousness of a broad range can be proven by a narrower range when one skilled in the art could ascertain a trend that would allow him to reasonably extend the probative value thereof.) However, the Examiner believes that no such trend may be ascertained from a single comparison involving two trials. Insofar as the composition of the primary reference is devoid of any mention of the cerium oxide component, Applicants could confine any additional experimentation to verifying the effects of cerium oxide



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incorporation across a somewhat broader assortment of compositions reflecting the breadth of their claims, for instance, with varied amounts of iron oxide, alumina, or both, alumina or iron oxide of different particles, etc. so as to illustrate that the effect of the cerium oxide is general across an array of different compositions satisfying the limitations of the claims.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MARC S. ZIMMER whose telephone number is (571)272-1096. The examiner can normally be reached on Monday-Friday 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jim Seidleck can be reached on 571-272-1078. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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April 28, 2010

/Marc S. Zimmer/  
Primary Examiner, Art Unit 1796